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Two-Channel Hologram Recording Using Photon Echo in Three-Level Systems

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Abstract

Information recording in three-level systems in external spatially inhomogeneous electric fields with coding of the data in the first two-frequency object pulse is studied. It is shown that when the nonequidistance parameter of the system is <1 the real-time scale in the stimulated photon echo response undergoes changes. When a spatially inhomogeneous electric field is applied between the first and second pulses and after the third pulse, a locking effect is observed in the stimulated photon echo response with an efficiency that depends on the field gradient. © 2014 Springer Science+Business Media New York.

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Keywords

data locking effect, stimulated photon echo, three-level system, two-frequency data recording